SCHOOLS

Highlights

- By the year 2022, school enrollment will increase by as many as 6,700 new students.
- The following additional facilities will be needed to serve existing development and growth for the next 20 years:
  - One expanded and five new elementary schools
  - One expanded and two or three new middle schools
  - Two to three expanded and two to three new high schools

Introduction

Chesterfield County Public Schools (CCPS) is the 80th largest public school district in the U.S., with 56 comprehensive schools and two alternative schools (Chesterfield Community High School and Perrymont Middle School) and a Fall 2003 enrollment of about 53,800 students. Schools are the largest county public facility in terms of building area, with the second largest land area (after Parks). Since 1995, middle and high school enrollment has outpaced facility capacity and improvements; elementary school capacity has kept pace with student growth.

Existing Facilities *Summary*

School Type	Number Of Schools	Fall 2003 Capacity (students)	Site Area (acres)	Building Area (sq. ft.)	Temporary Trailers	Fall 2003 Enrollment	% of Capacity
Elementary	36	24,651	708	2,716,903	139	24,121	98%
Middle	11	12,225	420	1,466,096	92	13,333	109%
High	9	15,411	651	2,224,330	40	16,308	106%
	56	**52,287**	**1,779**	**6,407,329**	**271**	**53,762**	**103%**

CCPS facilities are currently divided as follows:

School Type	Average Service Area	Typical Location	Student Capacity
Elementary (K - 5)	Neighborhoods 1.2 square miles	Within neighborhoods or along a major road.	Range: 380 to 950 Average: 690
Middle (6 – 8)	Elementary Clusters (3+ elementary schools	Fronting major roads	Range: 630 to 1,620 Average: 1,110
High (9 – 12)	County Regions (1 to 3 middle schools)	Fronting major arterial roads	Range: 1,570 to 1,990 Average: 1,710

In addition, CCPS offers a variety of specialized programs:

- English as a Second Language (ESL) at 11 schools
- High School Specialty Centers: 11 programs at nine high schools
- Chesterfield Community High School and two Governor's Schools
- Gifted and Special Education programs
- Early Childhood Programs for children over two years of age with disabilities

Existing Facilities Definitions (Background/Analysis)

Enrollment: The number of students registered with each school as of September 30th. This number, also called "membership," is used to determine school funding and staffing. By the end of each school year, enrollment has historically declined by an average of 1.5 percent. This decline is the result of student transfers, dropouts, and other attrition.

Attendance: A measure of the actual number of students physically at each school, and averages 3.9 percent less than enrollment.

Capacity: Capacity, also called "program capacity" or "functional capacity" measures the enrollment carrying capacity of a school (*excluding temporary trailers*), based on special limitations imposed by various school programs. This analysis uses Fall 2003 capacity and enrollment data supplied by CCPS. Actual student address locations for Fall 2003 enrollment were not available in time to be included in this Plan. Overall capacity at schools existing in 1995 has decreased by 1,544 students (three percent) by 2003, reflecting changing program demands that have increased space needs per student. Total capacity (including new schools) increased by 1,555 students (three percent), while enrollment grew by 5,584 students (12 percent). Fall 2002 system-wide enrollment was just 35 students short of full capacity. Fall 2003 enrollment was 1,475 students over capacity, reflecting enrollment growth of 928 students and capacity decreases of 592 students from 2002 to 2003.

Overcrowding: Schools are "overcrowded" when enrollment exceeds school capacity. Overcrowding affects schools in two major ways: classroom capacity must be expanded (typically by installing temporary trailers) and common spaces (such as libraries, cafeterias, interior hallways, and gymnasiums) handle more students than intended by design. School enrollment may be 105 percent of capacity, and since attendance is slightly lower, on any given school day there could still be enough room to accommodate students within the design capacity of common spaces. For the purposes of this analysis, a school is considered overcrowded when September 30th enrollment exceeds capacity, and "significantly overcrowded" when enrollment is at least 110 percent of capacity.

1995 Public Facilities Plan (Background/Analysis)

The 1995 Plan underestimated 2002 school-aged population by 1,664 persons (three percent), and overestimated 2003 enrollment by 2,509 students (five percent). Since 1995, school-aged population has grown faster than expected, due to in-migration. However, CCPS enrollment grew about half as fast as the school-aged population, due to unpredicted enrollment increases in private and home schools.

The 1995 Plan estimated that without additional facilities, CCPS would be overcrowded by 2,200 students by 2000, and recommend construction of five new schools (three elementary, one middle, and one high school), and renovation of nine schools (five elementary, one middle, and three high schools). Since 1995, two new elementary schools, a middle school, and a new high school have been constructed. In addition, 14 existing schools have been renovated and/or expanded. These accomplishments reflect CCPS commitment to renovate existing schools.

Level of Service Indicators

This Plan evaluates three level-of-service indicators: 1) legal attendance requirements; 2) attendance zones; and 3) convenience of school facilities.

Legal Attendance Requirements

State law requires CCPS to offer educational services to county residents who are at least five years old, who have not passed their 18th birthday by September 30th of the school year. Exceptions include children attending private schools, privately tutored students, home-educated students, and minor-aged high school graduates. CCPS also has responsibility to educate students with disabilities (ages 2-21) and the homeless. CCPS service demands and enrollment projections used throughout this document are based on the number of school-aged persons, minus exempted school-aged persons and dropouts.

Attendance Zones

CCPS has divided the county into 56 attendance zones to balance service demands and facility capacity. These zones may be changed from time to time, at the discretion of the School Board. There are currently 36 elementary, 11 middle, and nine high school zones. No attendance zones are assigned to specialty programs or regional schools. Twelve percent of all CCPS students attend schools located outside of home attendance zones, and are thus "exported" to other county schools. The reasons for such flexibility can be summarized as: 1) a widely used waiver system; 2) the popularity of specialty programs; and 3) consumer choice. Ultimately, attendance boundaries are porous, and do not always reflect or promote student convenience. While there is overall system-wide equilibrium between imported and exported attendance, the effects are not borne evenly at specific schools. In some instances, this may result in school overcrowding.

Exported Attendance (Fall 2002)
(students attending schools outside their attendance zone)

School Type	Exported Attendance
Elementary	12%
Middle	9%
High	14%
Total	**12%**

As the following table indicates, imported attendance (enrollment of students at a school by students living outside the school attendance zone) may be viewed as a cause of overcrowding at two out of three CCPS schools with overcrowding problems.

Impact of "Imported Attendance" on School Overcrowding (Fall 2002)

School Type	Overcrowded Schools	Overcrowded Due to Imported Attendance	Students Overcrowded	Imported Attendance
High	5	4	1,093	1,360
Middle	8	3	1,179	1,040
Elementary	16	13	1,077	1,323
Total	**29**	**20**	**3,349**	**3,723**

Imported and Exported Attendance (Background/Analysis)

Impact of "Imported Attendance" on School Overcrowding (Fall 2002)

School	Students Overcrowded	Imported Attendance	% of Overcrowding
Bird High	173	352	100%
Clover Hill High	375	286	76%
Manchester High	384	387	100%
Monacan High	65	138	100%
Thomas Dale High	96	197	100%
Subtotal	**1,093**	**1,360**	**100%**
Carver Middle	201	71	35%
Falling Creek Middle	136	41	30%
Manchester Middle	254	477	100%
Midlothian Middle	122	87	71%
Providence Middle	23	85	100%
Robious Middle	23	85	100%
Salem Church Middle	166	146	88%
Swift Creek Middle	254	48	19%
Subtotal	**1,179**	**1,040**	**88%**
Bellwood Elementary	48	71	100%
Bensley Elementary	15	66	100%
Clover Hill Elementary	95	49	52%
Crenshaw Elementary	46	47	100%
Ecoff Elementary	47	149	100%
Enon Elementary	14	66	100%
Falling Creek Elementary	24	55	100%
Gates Elementary	104	206	100%
Harrowgate Elementary	26	36	100%
M. Christian Elementary	154	170	100%
Matoaca Elementary	19	110	100%
Spring Run Elementary	183	66	36%
Watkins Elementary	38	101	100%
Weaver Elementary	6	28	100%
Wells Elementary	247	51	21%
Woolridge Elementary	11	52	100%
Subtotal	**1,077**	**1,323**	**100%**
Total	**3,349**	**3,723**	**100%**

Imported and Exported Attendance (Background/Analysis)

Elementary School Enrollment: Twelve percent of elementary students attend schools outside home attendance zones. This rate reflects resident students "exported" to other attendance zones. Exported attendance ranges from six percent (Weaver) to 31 percent (Ettrick). All elementary schools also "import" students from other attendance zones.

Imported attendance ranges from three percent (Weaver) to 29 percent (Swift Creek, which has a center-based gifted program).

Middle School Enrollment: Nine percent of middle school students attend schools outside home attendance zones. Exported attendance ranges from seven percent (Salem Church) to 14 percent (Falling Creek). All middle schools also import students from other attendance zones. Imported attendance ranges from two percent (Matoaca) to 32 percent (Manchester, which has a center-based gifted program).

High School Enrollment: Fourteen percent of high school students attend schools outside home attendance zones. Exported attendance ranges from eight percent (James River) to 37 percent (Matoaca). All high schools also import students from other attendance zones. Imported attendance ranges from seven percent (James River) to 21 percent (Bird), mostly associated with specialty centers at each high school. Seven percent of high school students are enrolled in specialty center programs, and many of these students attend schools located outside their home attendance zone.

Attendance Zone Waivers (Background/Analysis)

The school a student attends is determined by their home attendance zone, enrollment in a specialty program, or by attendance zone waiver. Waivers are commonly approved at the discretion of school principals for a variety of reasons, including:

- Elementary/middle school students who have after-school caregivers living in other attendance zones
- Students who have a parent employed at a CCPS school in another attendance zone
- Students who move into a different attendance zone during a school year.

The School Board may limit waivers in certain situations to mitigate school overcrowding.

Convenience of School Facilities

The 1995 Plan stated that schools should be located to "*minimize travel distance for current as well as future students.*" This goal attempts to locate schools near students, to minimize disruptions and inconvenience caused by long school commutes. Facility convenience implements Comprehensive Plan goals of encouraging orderly development by locating facilities near populations served, and sustaining neighborhoods by recognizing that convenience is important for schools to function as centers of community life. Convenience is easier to achieve for elementary schools, since they are more numerous and traditionally serve neighborhoods. In contrast fewer middle and high schools serve larger areas. Due to the existing road network and rural areas, schools cannot be convenient to every student. However, Plan facility recommendations attempt to maximize student convenience.

Seventy-four percent of CCPS students live within five minute driving distance of a school. Sixty-one percent of CCPS students attend schools located within five minute driving distance of home. Some students must attend schools that are inconveniently located, due to existing attendance zone boundaries. Other students choose to attend schools located outside of their zones, through attendance zone waivers, enrollment in special programs (such as Center-Based Gifted), and enrollment in high school specialty centers (1,014

students, or six percent of high school enrollment). Since *most* CCPS students live within five minute driving distance of schools, this figure is used throughout this analysis as a starting point to quantify the convenience of school locations.

School Facility Convenience (Fall 2002)

School Type	Students Living Within 5 Minute Driving Distance of School	Students Enrolled Within 5 Minute Driving Distance of School
Elementary	91%	76%
Middle	64%	54%
High	56%	43%
Total	74%	61%

Findings

In order to plan for future school facility needs, we must estimate future enrollment demands and the ability of existing school facilities to meet these needs. This analysis considers: existing system conditions (school capacity, enrollment, and deficiencies in school facilities relative to populations served); population growth (projected growth rates of school age persons); growth trends (probability of growth within existing elementary clusters, and middle and high school attendance zones; and enrollment projections (projected CCPS enrollment rates, countywide and in geographic sub-areas).

Existing System Conditions: Elementary Schools (Summary)

Fall 2003 elementary school enrollment was 98 percent of capacity system-wide. Seventeen elementary schools are overcrowded, ten of which are significantly overcrowded. Nineteen schools have more seats than students. Viewed as a system, elementary capacity and enrollment are balanced. This analysis examines elementary school enrollment and capacity within existing elementary clusters. Overcrowding at a school can often be mitigated by excess capacity at other nearby schools within a cluster, provided that additional capacity at these schools is available. Where additional in-cluster capacity is not available, school expansion or construction may be warranted. Clusters 1, 5, 6, and 7 are currently overcrowded.

Existing System Conditions: Elementary Schools (Background/Analysis)

Cluster 1 (generally west of the James River, north of Route 288, south of the Richmond City line and east of Route 10) is 21 students above capacity. In-cluster overcrowding is not significant and new elementary facilities within the cluster are not currently needed.

Cluster 5 (generally covering the area west of Courthouse Road, south of the Powhite Parkway, north of the Appomattox River and east of the Amelia County line) is currently 232 students above capacity. Some capacity exists for attendance zone changes within the cluster on a short-term basis; however, with continued growth in this area, in-cluster overcrowding will increase and there will be a need for expanded capacity and/or construction of a new elementary school.

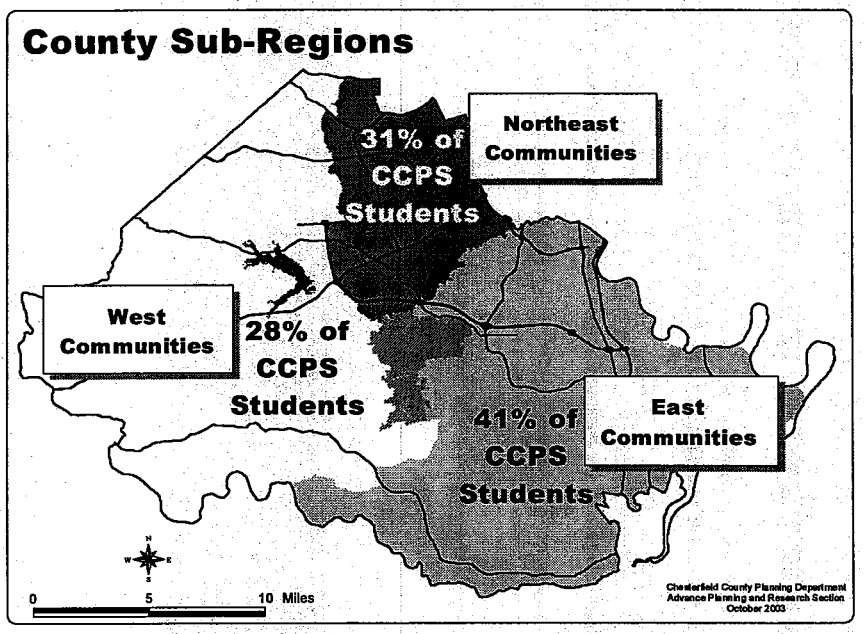
Cluster 6 (generally south of Route 288, west of the Seaboard Coast railroad tracks, north of the Appomattox River and east of Second Branch Road) is currently 24 students above capacity.

Some capacity exists for attendance zone changes within the cluster; however the large geographical area restricts significant change. There will be a need for expanded capacity at existing schools in this area.

Cluster 7 (generally west of the James River, south of Route 288, north of the city of Colonial Heights, and east of Lewis Road) is 342 students above capacity. In-cluster overcrowding is significant and there is an immediate need for expanded capacity and/or for construction of a new elementary school.

Existing System Conditions: Middle and High Schools

This analysis examines middle and high school enrollment and capacity in terms of the entire system and three county sub-regions (*based on existing communities and development patterns*): East Communities (areas generally south and east of Hull Street); Northeast Communities (areas generally north of Hull Street, east of Rt. 288); and West Communities (areas west of Rt. 288 and Pocahontas State Park).



Countywide middle and high enrollment is unequally distributed for three reasons: 1) schools are not evenly distributed; 2) attendance zone boundaries do not always promote student convenience; and 3) schools import attendance unequally. Although attendance zones and imported attendance are operational, not facility issues, they do affect enrollment and overcrowding at many schools. Since attendance zone boundaries and imported attendance are subject to change, unpredictable over a 20-year timeframe, and have a significant impact on new school needs, this analysis focuses on school convenience (i.e. how close schools are located to students). This approach seeks to evenly distribute schools within population centers for the maximum possible student convenience and facility efficiency. (*It should be noted that CCPS uses existing middle and high school attendance zones for long-term planning purposes, since this approach minimizes long-term attendance zone boundary changes and resulting family disruptions).*

Existing System Conditions: Middle Schools

Fall 2003 middle school enrollment was 1,108 students (nine percent) above capacity. Nine schools are overcrowded, five of which are significantly overcrowded: Carver, Falling Creek, Manchester, Salem Church, and Swift Creek. Two schools have more seats than students: Chester and Providence. Viewed as a system, middle schools are overcrowded. While some attendance zone changes and facility reuse options are possible, such the use of the former Matoaca High School as part of Matoaca Middle School, additional facilities are needed in the short-term.

Two out of three middle school students live within five minute driving distance of existing middle schools.

Middle School Convenience (Fall 2002)

Community Area	Resident Students	Living Within 5 Minute Driving Distance	% Living Within 5 Minute Driving Distance
East	5,512	3,885	70%
Northeast	4,181	2,987	71%
West	3,662	1,965	54%
Total	**13,355**	**8,837**	**66%**

Existing System Conditions: Middle Schools (Background/Analysis)

The east communities have five middle schools with capacity for 4,684 students. In 2002, 5,512 students lived in these communities, which was 828 more resident students than seats. Expansion of Chester, Falling Creek, and Salem Church Middle schools to a capacity of 1,200 students each would accommodate an additional 620 students. This would relieve existing overcrowding but not meet future area growth needs. 560 middle school students live east of I-95 near the Route 10 corridor, more than five minute driving distance from the nearest existing middle schools (Carver and Chester). This cluster suggests the possible need for a new middle school to improve student convenience and provide additional needed capacity in the area.

The northeast communities have three middle schools, with capacity for 3,562 students. In 2002, 4,181 students lived in these communities, which was 619 more resident students than seats. Expansion of existing middle schools serving this area would relieve only about a third of the existing need for capacity to serve resident students. Over 800 existing middle school students live near the Courthouse Road corridor, between Reams and Genito Roads, at least five minute driving distance from the nearest existing middle schools. This cluster suggests the possible need for a new middle school to improve student convenience and provide additional needed capacity in the area.

The west communities have three middle schools, with capacity for 3,979 students. In 2002, 3,662 students lived in these communities, which was 317 fewer resident students than seats. Enrollment at these schools is higher than the number of students living in the west communities, due to imported attendance and attendance zone boundaries that extend east of Route 288. Based on existing attendance zones, enrollment in 2003 was 4,442 students, which is 463 students above capacity.

About 780 students live in the developed areas of the west Hull Street corridor (between Beach, Otterdale, and Genito Roads), at least five minute driving distance from the nearest existing middle schools. This cluster suggests the possible need for a new middle school to improve student convenience in the area.

Existing System Conditions: High Schools

Fall 2003 high school enrollment was 897 students (six percent) above system-wide capacity. Six high schools are overcrowded, four of which are significantly overcrowded: L.C. Bird, Clover Hill, Manchester, and Thomas Dale. Three high schools have more seats than students: James River, Matoaca (new) and Monacan. Viewed as a system, existing high school capacity and enrollment are slightly over capacity (*see Map 8*). More than half of high school students currently live within five minute driving distance of existing high schools.

High School Convenience (Fall 2002)

Community Area	Resident Students	Living Within 5 Minute Driving Distance	% Living Within 5 Minute Driving Distance
East	6,024	4,316	70%
Northeast	5,214	1,622	31%
West	4,424	2,933	66%
Total	**15,842**	**8,871**	**56%**

Existing System Conditions: High Schools (Background/Analysis)

The east communities have four high schools with capacity for 6,607 students, with 6,204 resident students in 2002. These schools have adequate capacity for resident students.

The northeast communities are unequally served by existing high schools. The northeast communities had 5,214 resident high school students in 2002, yet are conveniently served by only Monacan high school, which has capacity for 1,704 students.

The west communities have four high schools with capacity for 7,100 students and had 4,424 resident students in 2002. These schools have adequate capacity for resident students.

There is a significant imbalance between where students live and attend high school in the northeast and west communities. This imbalance has resulted in attendance zones requiring almost 3,300 students living east of Route 288 to commute to high schools in the west half of the county. This movement of out-of-area students may be viewed as a significant cause of overcrowding in high schools such as Clover Hill and Manchester. Future high school facility decisions should improve facility convenience to existing students in the facility-poor northeast communities, while relieving overcrowding at high schools in the facility-rich west communities.

Population Growth

Population and Enrollment Summary Data

	Actual				Projections			
9/30 Population	1990	1995	2000	2002	2007	2012	2017	2022
County	213,323	239,290	262,993	275,352	305,800	334,549	362,301	391,479
School Age	47,612	54,107	59,511	61,676	64,944	65,589	66,745	70,957
% School Age	22.3%	22.6%	22.6%	22.4%	21.2%	19.6%	18.4%	18.1%
CCPS Enrollment	1990	1995	2000	2002	2007	2012	2017	2022
Elementary (K-5)	22,461	23,634	23,439	23,896	23,107 to 23,669	22,458 to 23,581	22,998 to 24,740	24,815 to 27,219
Middle (6-8)	9,987	11,457	12,548	13,267	13,503 to 13,832	12,778 to 13,417	12,582 to 13,534	13,081 to 14,349
High (9-12)	12,012	13,966	15,225	15,906	17,442 to 17,866	17,301 to 18,167	16,488 to 17,737	16,362 to 17,948
Total	44,480	49,057	51,212	52,834	54,077 to 55,392	52,560 to 55,190	52,091 to 56,036	54,281 to 59,541

Note: Total enrollment includes a small number of "ungraded" students, and is slightly greater than the sum of graded enrollment.

Growth Trends

This analysis considered three factors to help anticipate the likelihood, direction, and extent of future growth in smaller geographic areas: approved tentative subdivision lots; potential new dwelling units based on existing Comprehensive Plan designations; and the number of new housing units built within the past five years.

Growth Trends (Background/Analysis)

Growth Indicators in Existing Attendance Zones

Note: All percentages and the growth factor are rounded.

Existing School Attendance Zones	Approved Tentative Lots	% of Total	Potential New Housing Units	% of Total	Total Housing Units Built 1998-2003	%of Total	Growth Factor	Growth Potential
ELEMENTARY								
Cluster 1	518	5%	6,759	6%	423	4%	15	Lowest
Cluster 2	890	8%	5,344	5%	775	8%	21	Low
Cluster 3	1,042	9%	6,329	6%	1,009	11%	26	Low
Cluster 4	1,936	17%	17,529	16%	1,201	13%	46	High
Cluster 5	3,756	34%	29,152	27%	2,882	30%	91	Highest
Cluster 6	1,590	14%	30,526	28%	1,488	16%	58	High
Cluster 7	1,391	13%	12,920	12%	1,719	18%	43	Medium

Existing School Attendance Zones	Approved Tentative Lots	% of Total	Potential New Housing Units	% of Total	Total Housing Units Built 1998-2003	%of Total	Growth Factor	Growth Potential
MIDDLE SCHOOL								
Bailey Bridge	2,658	24%	10,044	11%	2,121	18%	53	Highest
Carver	1,246	11%	10,111	11%	1,991	17%	39	Medium
Chester	313	3%	4,587	5%	506	4%	12	Low
Falling Creek	518	5%	5,720	6%	1,028	9%	20	Medium
Manchester	890	8%	3,710	4%	665	6%	18	Low
Matoaca	559	5%	16,540	18%	434	4%	27	Medium
Midlothian	2,252	20%	13,920	15%	1,665	14%	50	High
Providence	313	3%	2,767	3%	425	4%	9	Low
Robious	288	3%	2,004	2%	431	4%	8	Lowest
Salem Church	498	4%	7,598	8%	828	7%	20	Medium
Swift Creek	1,588	14%	13,857	15%	1,870	16%	45	High
HIGH SCHOOL								
Bird	327	3%	8,232	9%	527	4%	16	Low
Clover Hill	1,588	14%	13,857	15%	2,159	18%	48	High
James River	295	3%	2,661	3%	525	4%	10	Lowest
Manchester	2,668	24%	9,793	11%	1,639	14%	49	High
Matoaca	1,632	15%	24,580	27%	1,558	13%	55	Highest
Meadowbrook	819	7%	6,706	7%	1,469	12%	27	Medium
Midlothian	2,310	21%	13,794	15%	1,294	11%	47	High
Monacan	373	3%	2,881	3%	728	6%	13	Low
Thomas Dale	1,111	10%	8,354	9%	2,062	17%	36	Medium

"Growth Factor" equals the sum of percentage share of approved tentative lots, potential new housing units, and total housing units built from 1998 to 2003.

Enrollment Projection Summary

Over the past decade, there have been significant changes to public education nationwide, including emerging public school alternatives (such as homeschooling, cyber-schools, and distance learning), choice initiatives (such as charter schools, vouchers, and magnet schools), and accountability measures (such as SOLs and the No Child Left Behind Act). Due to the changeable nature of issues affecting long-term public school enrollment trends, the following tables include "low" and "high" enrollment projections, by school type. Shading denotes overcrowding. "Resident students" denotes the estimated number of CCPS students living within each specific geography (which may differ from actual enrollment, due to imported attendance). Projected enrollment figures are based on high projection figures (worst-case scenario).

Elementary Schools: System-wide School Enrollment Projections

Year	Students	Capacity	Shortfall	Minimum System-wide Facility Needs
2003	24,121	24,651	0: 530 student capacity surplus	None
2007	23,107 to 23,669	24,651	0: 982 student capacity surplus	None
2012	22,458 to 23,581	24,651	0: 1,070 student capacity surplus	None
2022	24,815 to 27,219	24,651	164 to 2,568	Up to four new elementary schools and/or expansions at existing elementary schools

Elementary Schools: Cluster Enrollment Projections *(based on students living in each cluster)*

Cluster	Existing Capacity	2002 Resident Students	2007 Resident Students	2012 Resident Students	2022 Resident Students
1	2,547	2,809	2,676	2,569	2,809
2	2,368	2,122	2,109	2,095	2,346
3	3,709	3,202	3,147	3,073	3,366
4	3,850	3,397	3,431	3,446	3,885
5	5,465	5,463	5,518	5,585	6,731
6	**3,336**	**3,170**	**3,158**	**3,125**	**3,672**
7	**3,376**	**3,605**	**3,651**	**3,678**	**4,412**

Note: resident student figures for clusters differ from actual enrollment, due to imported attendance.

Middle Schools: System-wide Enrollment Projections

Year	Students	Capacity	Shortfall	Minimum System-wide Facility Needs
2003	13,333	12,225	1,108	One new middle school and/or expansions at existing middle schools
2007	13,503 to 13,832	12,225	1,278 to 1,607	Two new middle schools and/or expansions at existing middle schools
2012	12,778 to 13,417	12,225	553 to 1,192	One new middle school and/or expansions at existing middle schools
2022	13,081 to 14,349	12,225	856 to 2,124	Two new middle schools and/or expansions at existing middle schools

Middle Schools: Enrollment Projections

Communities	Existing Capacity	2002 Resident Students	2007 Resident Students	2012 Resident Students	2022 Resident Students
East	4,684	5,512	5,551 to 5,687	5,227 to 5,490	5,413 to 5,938
Northeast	3,562	4,181	4,083 to 4,185	3,748 to 3,934	3,526 to 3,968
West	3,979	3,662	3,867 to 3,961	3,802 to 3,993	4,143 to 4,544

High Schools: System-wide Enrollment Projections

Year	Students	Capacity	Shortfall	Minimum System-wide Facility Needs
2003	16,308	15,411	897	One new high school and/or expansions at existing high schools
2007	17,742 to 17,866	15,411	2,331 to 2,455	One new high schools and/or expansions at existing high schools
2012	17,301 to 18,167	15,411	1,890 to 2,756	One to two new high schools and/or expansions at existing high schools
2022	16,362 to 17,948	15,411	951 to 2,537	One to two new high schools and/or expansions at existing high schools

High Schools: Enrollment Projections

Communities	Existing Capacity	2002 Resident Students	2007 Resident Students	2012 Resident Students	2022 Resident Students
East	6,607	6,204	6,814 to 6,973	6,730 to 7,061	6,443 to 7,064
Northeast	1,704	5,214	5,539 to 5,671	5,324 to 5,587	4,626 to 5,074
West	7,100	4,424	5,090 to 5,202	5,248 to 5,510	5,293 to 5,804

Enrollment Projections: Elementary Schools (Background/Analysis)

The following analysis is based on projections of the number resident students living each elementary cluster.

2007: By 2007, elementary school enrollment should decline by between 452 and 1,014 students, resulting in a system-wide capacity surplus of between 982 and 1,544 students. Clusters 1, 5, and 7 may be overcrowded.

Cluster 1 overcrowding (262 students in 2002) is expected to decline to 129 students by 2007. In-cluster overcrowding at Beulah, Bellwood, and Falling Creek could be mitigated by excess capacity (149 students) at Bensley Elementary School.

Cluster 5 overcrowding by 2007 (53 students) could be mitigated by excess capacity at Grange Hall Elementary School.

Cluster 7 would be the most adversely overcrowded, by up to 275 students (eight percent above existing capacity), which would not be sufficient to warrant a new elementary school. Marguerite Christian and Wells are already significantly overcrowded, and growth within the cluster will continue to impact these schools. Most approved tentative subdivision plats in Cluster 7 are located in the west half of the cluster, within the existing Harrowgate and Wells attendance zones. Expanding capacity at Harrowgate by 260 students would bring that school to 775-student capacity, and could relieve most in-cluster overcrowding. Due to site constraints, Wells cannot be easily expanded. Short-term overcrowding at Marguerite Christian could be partly mitigated by relocating the Center-Based Gifted program to another elementary school with excess capacity (such as Curtis).

(It should be noted that CCPS feels that relocation of Center-Based Gifted programs is an operational issue, not a facility issue, and recommends that this Plan contain non-specific language to address the issue: "Itinerant programs may need to be relocated." Planning staff has included the specific CBG program relocation recommendations as potential non-facility solution to address immediate overcrowding concerns.)

2012: By 2012, elementary school enrollment should decline by between 540 and 1,663 students, resulting in a system-wide capacity surplus of between 1,070 and 2,193 students. Clusters 1, 5, and 7 could be overcrowded.

Cluster 1 overcrowding is expected to drop to 22 students in 2012, which would be insignificant.

Cluster 5 could be overcrowded by up to 120 students, which would not be sufficient to warrant a new elementary school. Most approved tentative subdivision plats in Cluster 5 are located in the Spring Run and Grange Hall attendance zones. Capacity of Cluster 5 individual schools is near optimum size. An alternative to meet in-cluster overcrowding would be move the existing center based gifted (CBG) program now based at Swift Creek in Cluster 5 (with a 2002 enrollment of 195 students) to a school in Cluster 3 (which should have capacity for at least 636 additional students by 2012). Excess capacity in Cluster 3 could serve CBG enrollment at a central, convenient location, and alleviate short-term overcrowding in Cluster 5. (*See note for Cluster 7, above, for CCPS concerns regarding this type of recommendation*).

In view of the huge growth potential in the cluster, with developments such as Magnolia Green, new long-term capacity will also be needed in-cluster, most likely during the 2012-2022 timeframe. About 675 elementary school students lived south of Hull Street, between Winterpock and Baldwin Creek Roads in 2002. A new school serving these students would greatly increase student convenience and relieve overcrowding at Spring Run and Clover Hill, and create additional capacity at Grange Hall to serve anticipated growth of Magnolia Green.

Cluster 7 would continue to be the most adversely overcrowded, by up to 302 students (nine percent). With the proposed Harrowgate expansion discussed above, there would still be need for additional in-cluster capacity in the 2012-2022 timeframe. A new elementary school to serve this cluster will be needed. There are currently over 300 students living in the vicinity of the Rivers Bend development who must travel more than two miles to attend the closest elementary school (Marguerite Christian, which is significantly overcrowded). This cluster of students living a greater distance from existing schools suggests the need for a new elementary school in the area. This new school could provide relief to overcrowding at Marguerite Christian and Enon, and serve most growth in the area through the year 2022.

2022: By 2022, elementary school enrollment should increase by between 694 and 3,098 students, resulting in system-wide overcrowding of between 164 and 2,568 students. Clusters 1, 4, 5, 6, and 7 will be overcrowded.

Cluster 1 overcrowding is expected to reach 262 students by 2022. Small expansions to Bellwood and Falling Creek could accommodate most additional capacity needs.

Cluster 4 is expected to be only slightly overcrowded by the year 2022. However, most new growth in-cluster is expected to be located in the west part of the existing Watkins attendance zone. Since Watkins is already overcrowded (by 60 students in 2003) and is located in the extreme east end of the existing attendance zone, a new elementary school serving west growth areas will be needed. A new elementary school in the Old Hundred Road area, between Otterdale and Mt. Hermon Roads would meet student growth needs in this cluster through 2022.

Cluster 5 could be significantly overcrowded, by up to 1,266 students. A new north Cluster 5 elementary school will be needed to serve growth areas between Otterdale, Moseley, Duval, and Genito Roads. This new school, in conjunction with the proposed new south Cluster 5 school (*discussed above*), would meet capacity needs through the year 2022. These two new schools would supplement existing capacity at Grange Hall, to serve expected elementary school enrollment growth generated by Magnolia Green. Grange Hall could serve roughly the south half of Magnolia Green. The proposed south Cluster 5 school could southeast areas of the development. Finally, the proposed north Cluster 5 school could serve the north half of Magnolia Green.

Cluster 6 could be significantly overcrowded (up to 336 additional students) by the year 2022. A new elementary school in the vicinity of Nash Road, Woodland Pond, and the Highlands would serve growth in Cluster 6 through 2022, and provide relief to overcrowding at Ecoff and Gates.

Cluster 7 overcrowding, expected to reach 1,036 students by 2022, should be addressed by expansion of Harrowgate and construction of a new Rivers Bend area elementary school (discussed above).

Enrollment Projections: Middle Schools (Background/Analysis)

The following analysis is based on the projected number of resident students living in each of the East, Northeast, and West community sub-areas.

2007: By 2007, middle school enrollment should grow by between 170 and 499 students, resulting in system-wide overcrowding of between 1,278 and 1,607 students. Two new middle schools would serve minimum system-wide capacity needs through 2007. Existing middle schools in the east communities could be 867 to 1,003 students over capacity by 2007. Smaller expansion to existing middle schools, and a new middle school in the Route 10 corridor, between I-95 and I-295, would meet service needs in the area (see existing conditions analysis).

Existing middle schools in the northeast communities could have 623 more resident students than seats by the year 2007. A new middle school in the Courthouse/Powhite area would meet service needs in the area (see existing conditions analysis).

Although west community middle schools should have more seats than resident students through the year 2012, existing schools are not conveniently located to many students living in the west Hull Street corridor (see existing conditions analysis). A new middle school in the area would improve student convenience, serve long-term growth, and relieve overcrowding at Swift Creek Middle School.

2012: Enrollment could either decline by as many as 555 students or increase by as many as 84 students by 2012, resulting in system-wide overcrowding of between 553 and 1,192 students. Facilities recommendations for the year 2007 should meet minimum system-wide enrollment increases.

2022: By 2022, middle school enrollment could either decline by as many as 252 students or increase by as many as 1,016 students, resulting in system-wide overcrowding of between 856 and 2,124 students. East communities will need additional capacity by the year 2022, depending on the size of the Route 10 corridor middle school discussed above. This additional need could be addressed by expansion of Salem Church Middle School.

The northeast communities will not require additional middle school facilities by 2022, if year 2007 recommendations are implemented.

The west communities will not require additional middle school facilities by 2022, if year 2007 recommendations are implemented.

Enrollment Projections: High Schools (Analysis)

The following analysis is based on the projected number of resident students living in each of the East, Northeast, and West community sub-areas.

2007: By 2007, there will be a system-wide need for additional high school capacity to serve between 2,331 and 2,455 students. Resident student growth in the east communities, could result in overcrowding by as many as 366 students. Expansion of L.C. Bird High School could provide additional capacity to meet these future demands.

The northeast communities will have as many 3,967 resident students in excess of capacity of high school facilities in the area. This situation is the result of existing attendance zone boundaries that draw many northeast area community students to west community high schools (see existing conditions analysis). A new northeast high school with capacity for 1,750 students could serve most expected minimum system-wide high school enrollment growth through the year 2022, while addressing the significant convenience issue for northeast community high school students.

The west communities should have sufficient capacity to accommodate resident students through the year 2022. However, due to existing attendance zone boundaries Clover Hill and Manchester have significant overcrowding. A new high school serving existing west community high school attendance zones could address this issue. Additional minimum capacity for up to 757 high school students will also be needed (in addition to the northeast communities high school discussed above).

Additions to existing high schools could meet these needs, and should be focused in high growth areas, benefiting older schools in need of renovation (*such as Clover Hill, Midlothian, and L.C. Bird High Schools*).

2012: By 2012, there will be a need for additional high school capacity to serve between 1,890 and 2,756 students. This need could be addressed by facility improvements discussed above.

2022: By 2022, system-wide high school capacity will need to be increased between 951 and 2,537 students. Capacity for these new students would be accommodated by facility improvements discussed above.

CCPS Facility Planning Criteria and Goals (Background/Analysis)

CCPS has five criteria for evaluating the need for new school facilities:

(1) Relief for currently overcrowded facilities
(2) Preparing for additional growth
(3) Maximize the use of existing space and when necessary, build new facilities or renovate existing facilities
(4) Cause as little disruption to families and communities as possible
(5) Maintaining a high level of consumer choice options.

Relief for Overcrowded Facilities: Due to the numbers of specialized programs highlighted above and the emphasis placed in recent years by the School Board and our citizens for lower class sizes, the capacity of CCPS facilities is less than the design capacity when the schools were constructed and/or renovated. Functional capacity is calculated as 23 students in each regular classroom (fewer if those schools are participating in state and/or federal class size reduction efforts), and 10 students in each special education classroom (driven by Commonwealth of Virginia Special Education Regulations). Art, music, physical education, reading, early childhood, and special education resource rooms are not included for capacity development.

Annually, a space utilization study is conducted in order to determine the current functional capacity of facilities. This functional capacity is then compared to enrollment to determine what level of overcrowding exists and what changes might be made in order to provide relief. Solutions can range from moving a specialized program (special education, ESL, etc.) to placement of trailers, and/or attendance zone modifications. When no viable solutions exist, new facilities or additions to current facilities are warranted.

Preparing for Additional Growth: CCPS uses population projections provided by the Chesterfield County Planning Department. Enrollment projections are then developed by CCPS based on these population estimates, existing and future development activity, live birth data, and current student enrollments.

Facility decisions, whether to modify current attendance zones, build new facilities, or renovate existing facilities must be made in light of both current overcrowding and future growth anticipated in selected areas of the county.

Maximize the Use of Existing Space: CCPS understands its obligations to be good stewards of our citizens' tax dollars. Therefore, all existing space should be utilized to the extent possible prior to building additional capacity. Using this space can require attendance zone changes and movement of specialized programs.

Minimize Disruption to Families and Communities: Changing attendance zones and/or movement of programs, along with decisions to build additional capacity, are made whenever possible, in a manner that provides minimal disruption to our families and communities. In addition to minimizing disruptions, it is imperative that multiple moves within a child's educational career are kept to a minimum.

Attendance zone changes, whether to use existing space or when new space is created, affects our families in a myriad of ways. While the primary focus is on the instructional program, boundary changes often require changes in day care arrangements, recreational activities, parent work schedules, after school programs, and many other daily life activities.

Building new facilities automatically requires attendance zone changes. Locating facilities in areas that can provide the maximum relief for overcrowding, provide for future growth, and affect as few students and families as possible becomes the *primary* goal.

Consumer Choice: CCPS is committed to providing viable instructional alternatives for students and their families. Alternative education, special education, center-based gifted programs, high school specialty centers are all options that are either required by law or prized the community at large. Limited financial resources do not allow all programs to be housed in all facilities; therefore, centers must be created that require students to attend schools that are outside of the attendance zone that services their homes. Increasing voluntary participation in these programs indicates that some families will not make decisions based on convenience or proximity, but rather what they believe is in the best interest of their children.

Recent School Planning Efforts

At the time of Plan preparation, CCPS was evaluating private sector proposals to build two new high schools in the west Hull Street corridor area. One school would be located in the Cosby Road area, north of Hull Street, east of Otterdale Road. This school is intended to replace the existing Clover Hill High School. The existing Clover Hill High School campus would be converted to a new middle school. The other new high school would be located in the southwest quadrant of the Genito/Route 288 intersection, to serve future enrollment growth and alleviate overcrowding at west community high schools. Each new high school would have capacity for 1,750 students, and together would help meet minimum system-wide high school student capacity needs through the year 2022. The site selection process for these schools relied on the existing adopted 1995 Public Facilities Plan.

Two Different Approaches to High School Facility Planning

This Plan has outlined two different approaches to high school facility planning in the county. These approaches use similar data, but apply the data to meet differing goals and objectives. For this reason, the results and recommendations of these approaches differ, as discussed below.

Option A: If priority objectives for locating new high schools include minimizing student travel distance and sustaining neighborhoods, a new northeast high school (plus additions at other existing high schools) would best meet these needs. The following facilities would support these objectives:

(2002-2007) Construct a new high school with capacity for 1,750 students, in the area generally bordered by Courthouse Road, Powhite Parkway, Chippenham Parkway, and Falling Creek. Adjust existing attendance zone boundaries for James River, Manchester, and Monacan so that east portions of these zones shift attendance to the new high school.

(2002-2007) Renovate and expand Clover Hill, L.C. Bird, and Midlothian High Schools to increase overall capacity.

Option B: If the priority objective is to maintain existing attendance zone boundaries so as to minimize disruptions, the CCPS plan for the Genito Road and Cosby Road high school locations would serve that goal. The following facilities would support this objective, while also providing for long-term facility convenience of northeast area high school students:

(2002-2007) Replace Clover Hill High School, with a new high school with capacity for 1,750 to 2,000 students, in the area located between Hull Street and Genito Roads, east of Otterdale Road.

(2002-2007) Construct a new high school with capacity for 1,750 to 2,000 students, in the vicinity of Genito Road and Route 288.

(2007-2012) Pursue site acquisition for a new northeast area high school. The northeast area high school site should be located in the area generally bordered by Courthouse Road, Powhite Parkway, Chippenham Parkway, and Falling Creek.

(2012-2022) Construct a new high school with capacity for 1,750 to 2,000 students in the area generally bordered by Courthouse Road, Powhite Parkway, Chippenham Parkway, and Falling Creek.

Locational Criteria

- Provide school facilities to adequately and equitably serve all areas of the county.
- Provide schools at locations that minimize travel distance for students.
- Middle and high schools should be located with convenient access to a major arterial road. Principal access should not be through residential neighborhoods.

- Middle and high schools should not be located within residential neighborhoods. Where middle and high schools are adjacent to neighborhoods, active recreation and large parking areas should be oriented away from neighborhoods. Sports facilities and parking areas should be buffered to protect nearby homes.
- Elementary school sites should be located with access to a collector street.
- Elementary schools may be located within residential neighborhoods; site design should minimize impacts of the recreational areas on adjacent residences.

Other Criteria

- Schedule school expansion and/or new construction to relieve overcrowding and to respond to new growth. Priority shall be given to renovating existing facilities. Second priority shall be given to construction of new facilities where renovation alone cannot adequately meet facility needs of existing students.
- School renovations should have the goal of "bringing up to parity" the oldest and least improved school sites. Major renovations should include significant improvements to common serving school components, such as technology, cafeterias, gymnasiums, auditoriums, and athletic facilities.
- Provide capacity so that schools do not exceed 120% capacity. Most schools should be below 100% capacity. Program changes should not decrease capacity at overcrowded schools.
- Attendance zone boundary changes may be an option to relieve overcrowding where excess capacity is available at schools in adjacent attendance zones.
- Specialty programs should be located at schools outside of rapidly developing areas, and/or at schools that are not overcrowded.
- Coordinate school site planning and development with the Parks and Recreation Department, in order to maximize community recreational facilities.
- Develop regional athletic facilities serving multiple high schools.
- Site acquisition should be in advance of development, to secure optimal locations and minimize costs. Site development should be in conjunction with or following growth, not prior to development of surrounding areas. School facility development should not induce growth by extending urban services into undeveloped areas.
- New schools in developing areas should meet the following student capacity and site area criteria (+/- 10%):

School Type	Recommended Capacity	Recommended Site Area
Elementary	775 students	20 - 30 acres
Middle	1200 students	50 - 60 acres
High	1800-2000 students	70 - 100 acres

In established, developed areas, school capacity and site area guidelines shall be flexible, since infill parcels may have greater constraints.

High School Site Area (Background/Analysis)

The existing Clover Hill High School site, at 50 acres, is smaller than most CCPS high schools. However, it is ten acres larger than Thomas Dale High School, which has roughly equivalent enrollment. The average CCPS high school campus size is 72 acres, with capacity for 1,758 students.

This is larger than other Virginia jurisdictions (*Fairfax, Henrico, James City, Loudoun, Prince William, Roanoke, and Spotsylvania counties*), where existing high schools average 52 acres with capacity for 1,740 students. If the existing Clover Hill High School were expanded to a 2,000-student capacity, this would equal 40 students per acre of site area, which would be less intensive than the 46.2 students per acre student capacity of the existing Thomas Dale High School.

Recommendations (Maps 9-11)

The following recommendations serve Comprehensive Plan goals for sustaining neighborhoods by encouraging school facility development in established neighborhoods. These recommendations also promote Comprehensive Plan goals for orderly development, by locating future schools in planned growth areas. The following facility recommendations assume construction of two new high schools in the Hull Street corridor and conversion of Clover Hill High School to a middle school. Should the current CCPS high school and middle school concept not be realized, alternate recommended facility locations are provided.

2002-2007

a. (Clusters 1, 5, and 7) Utilize excess capacity at Bensley, Curtis, and Grange Hall Elementary Schools.

b. (Cluster 7) Reduce imported attendance at Marguerite Christian Elementary School.

c. (Cluster 7) Expand capacity at Harrowgate Elementary School.

d. Construct a new middle school in the Courthouse Road area, between Hull Street and Reams Roads. Redistrict attendance zones serving Bailey Bridge, Manchester, Midlothian, Providence, and Robious Middle Schools.

e. Renovate and increase capacity at L.C. Bird High School.

f. Construct a new high school with capacity for 1,750 students, in the area generally bordered by Courthouse Road, Powhite Parkway, Chippenham Parkway, and Falling Creek. Adjust existing attendance zone boundaries for James River, Manchester, and Monacan so that east portions of these zones shift attendance to the new high school. *(This recommendation would not apply until the 2012-2022 timeframe if CCPS begins construction on two high schools in the west Hull Street corridor and conversion of Clover Hill High School to a middle school prior to adoption of this plan).*

g. Renovate and expand Clover Hill and/or Midlothian High School, to increase overall capacity by an additional 300 students. An alternative would be to replace Clover Hill High School, with a new high school with capacity for 1,750 to 2,000 students, in the area located between Hull Street and Genito Roads, east of Otterdale Road. *(This recommendation would not apply to Clover Hill High School if CCPS begins construction on two high schools in the west Hull Street corridor and conversion of Clover Hill School to a middle school prior to adoption of this plan).*

2007 - 2012

h. (Clusters 3 and 5) Move the Center Based Gifted program from Swift Creek Elementary to Cluster 3. Swift Creek attendance zone boundaries should be adjusted to serve new

growth areas west of Brandermill, between Genito Road and the Powhite Parkway alignment.

i. (Cluster 5) Construct a new elementary school with capacity for 775 to 900 students, south of Hull Street, between Winterpock and Baldwin Creek Roads.

j. (Cluster 7) Construct a new elementary school with capacity for 775 students, in the vicinity of the Rivers Bend development.

k. Construct a new middle school in the Route 10 area, between I-95 and I-295. Redistrict attendance zones serving Carver, Chester, Matoaca, and Salem Church Middle Schools.

l. Pursue site acquisition for a new northeast area high school. The northeast area high school site should be located in the area generally bordered by Courthouse Road, Powhite Parkway, Chippenham Parkway, and Falling Creek. *(This recommendation would apply only if CCPS begins construction on two high schools in the west Hull Street corridor prior to adoption of this plan).*

2012 - 2022

m. (Cluster 4) Construct a new elementary school with capacity for 775 students, in the Old Hundred Road area, between Otterdale and Mt. Hermon Roads.

n. (Cluster 5) Construct a new elementary school with capacity for 775 students, located in the general area between Otterdale, Duval, Moseley, and Genito Roads.

o. (Cluster 6) Construct a new elementary school with capacity for 775 students, located in the vicinity of Nash Road, and the Woodland Pond/Highlands developments.

p. Expand capacity at Salem Church Middle School by 250 students.

q. Construct a new middle school with capacity for up to 800 students, in the west Hull Street Road area (in the general area bordered by Genito, Beach, Baldwin Creek, and Winterpock Roads. *(This recommendation would not apply if CCPS converts Clover Hill High School to a new middle school).*

Benefits of Facility Recommendations (Background/Analysis

New East Area Middle School: This new school could provide relief to overcrowding at Carver and Salem Church Middle Schools (*in conjunction with redistricting attendance zones serving Carver, Chester, Matoaca, and Salem Church Middle Schools*), improve student convenience, and serve future growth.

New Courthouse/Powhite Area Middle School: This new school could provide relief to overcrowding at Manchester, Providence, and Robious middle schools, improve student convenience, and serve future growth. A new Courthouse/Powhite area middle school could also relieve overcrowding at Midlothian Middle School. Approximately 400 middle school students live in the Gordon community (*areas within 1.5 miles west of Courthouse Road, between the Powhite Parkway and Midlothian Turnpike*), and attend Midlothian Middle School. Most of these students live closer to the Courthouse corridor than to Midlothian Middle School.

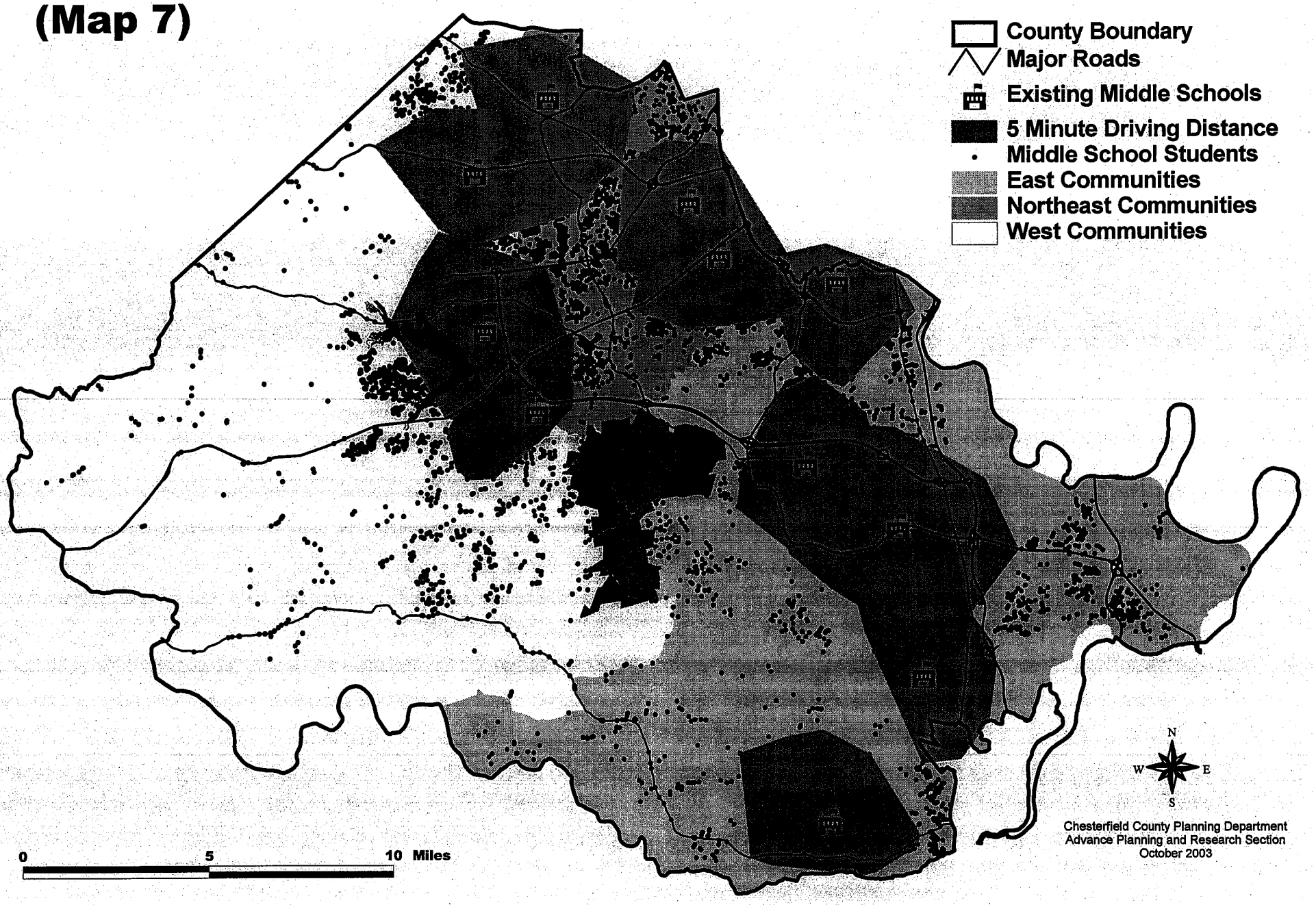
A Courthouse/Powhite area middle school could also reduce imported attendance and overcrowding in west community middle schools, through attendance zone boundary changes.

Northeast Area High School: There is a clear need for a new high school located in the northeast communities. This school should have capacity for 1,750 students and be built in the vicinity of the eastern sections of the existing Manchester, Monacan, and James River attendance zones. A new northeast high school could:

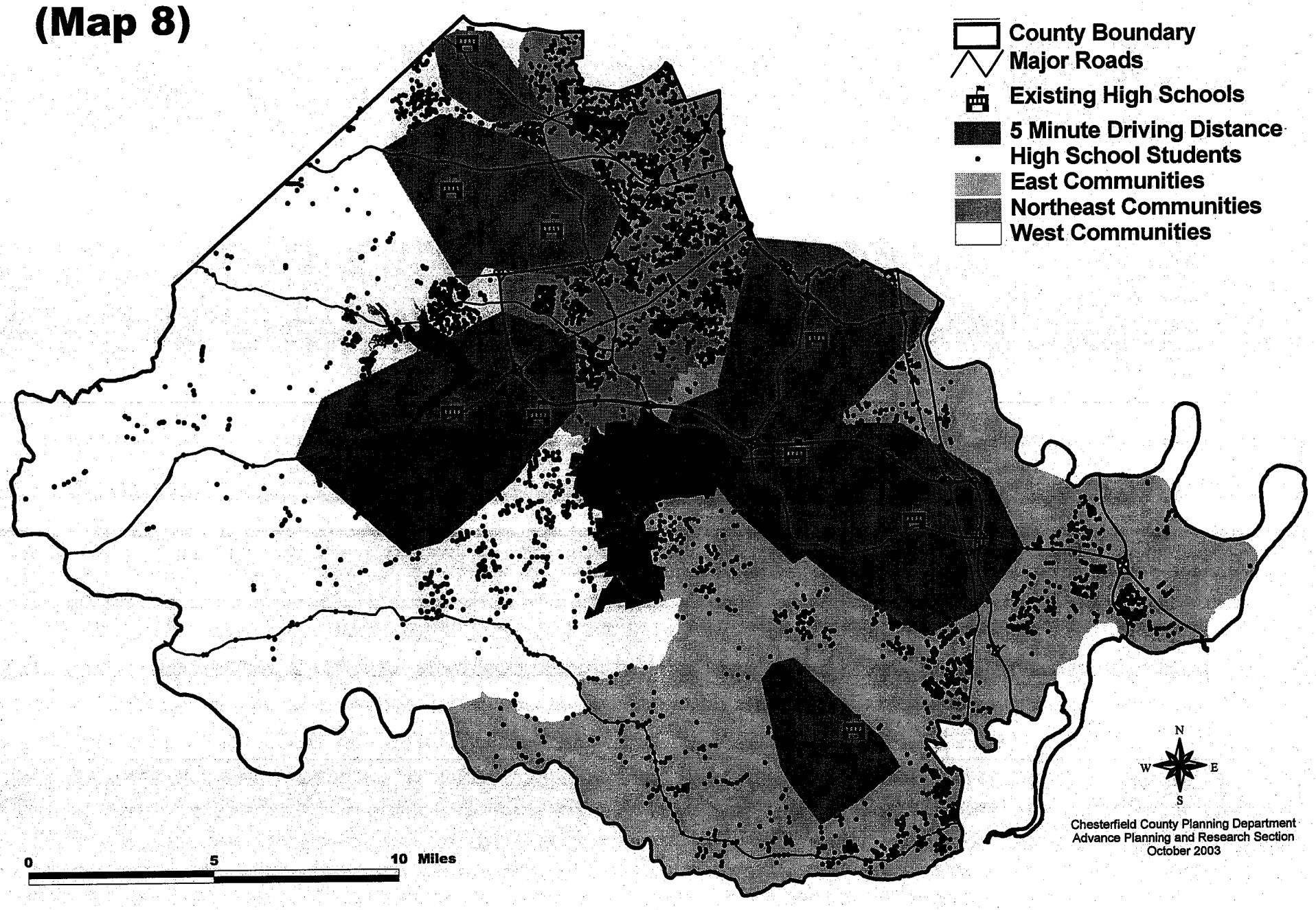
1) Accommodate most new system-wide high school student growth through 2022;
2) Relieve overcrowding at existing high schools, in conjunction with attendance zone boundary changes; and
3) It will restore facility parity to student populations in an established, developed area.

West High School Site Options: A south of Hull Street location should be avoided since areas south of Hull Street are planned for far fewer residential units, and would be less convenient to existing and future students. The Comprehensive Plan Deferred Growth Area ("green area") south of Hull Street begins just 1.3 miles west of Otterdale Road, whereas planned growth areas north of Hull Street extend four miles west of Otterdale.

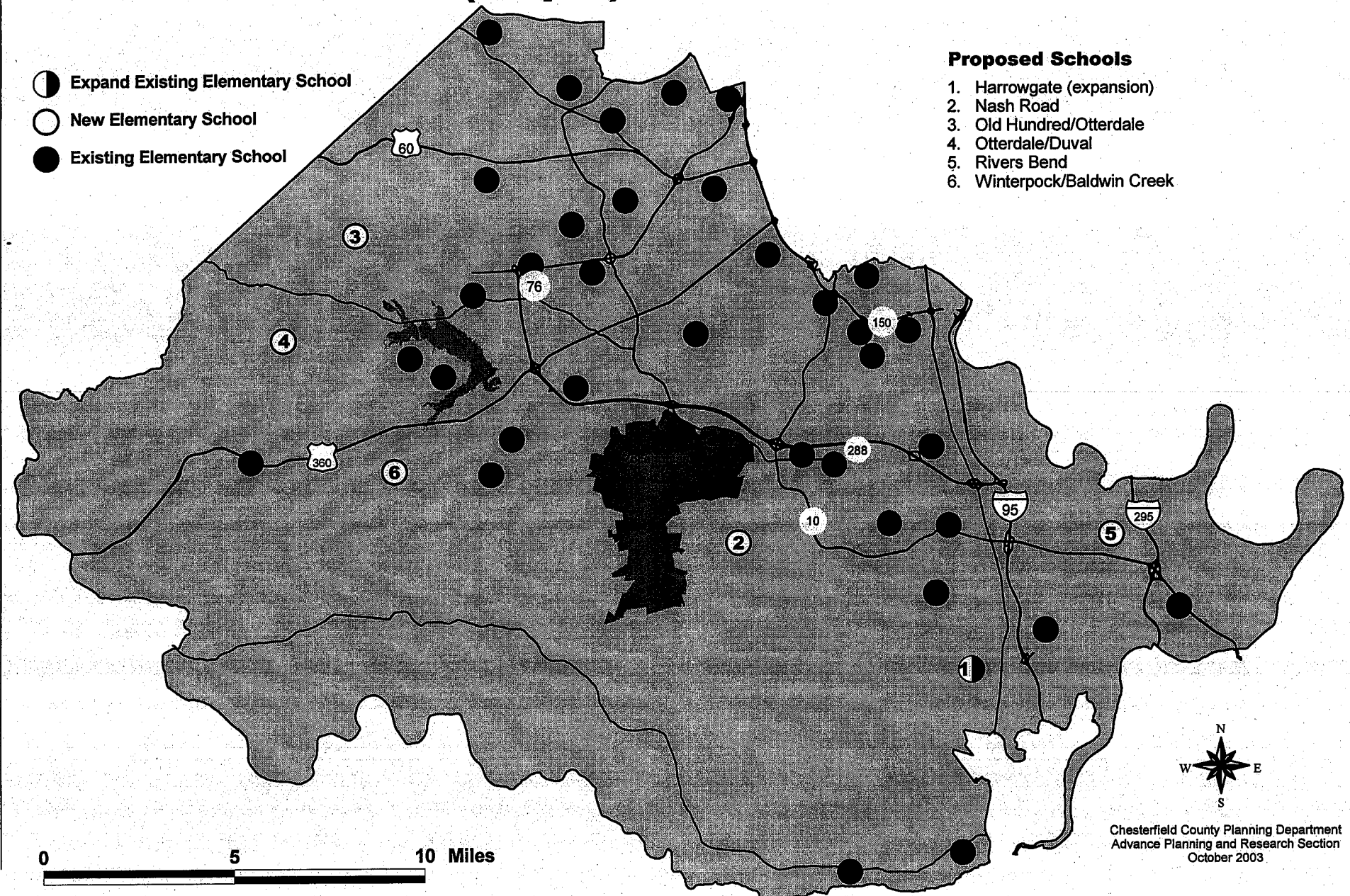
Middle School Student Convenience (Map 7)



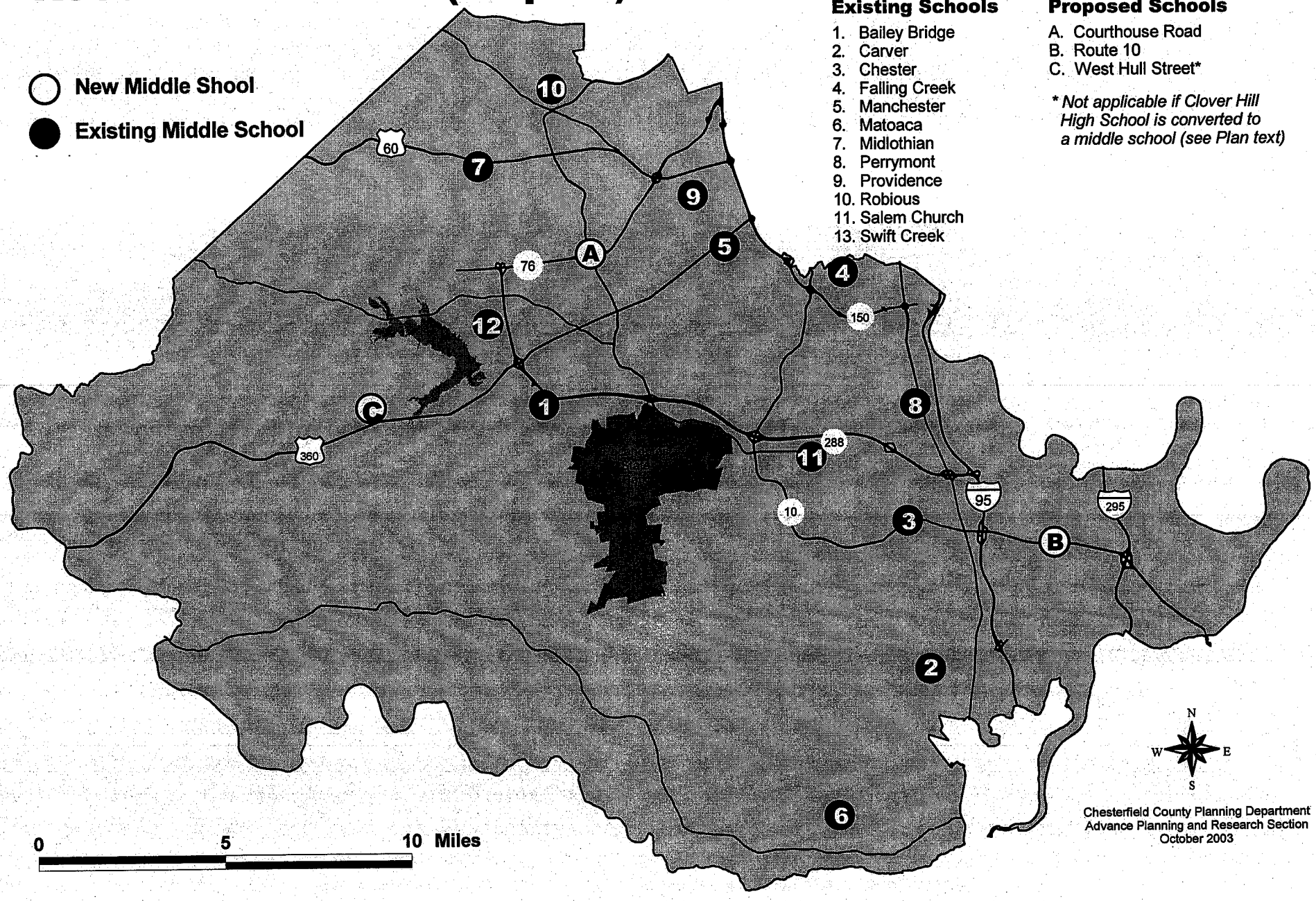
High School Student Convenience (Map 8)



Public Facilities Plan: Elementary School Recommendations (Map 9)



Public Facilities Plan: Middle School Recommendations (Map 10)



Public Facilities Plan: High School Recommendations (Map 11)